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(FILE 'USPAT' ENTERED AT 10:37:16 ON 05 NOV 95)
L1 2812 S HIV OR LAV OR ARV OR HTLV
L2 2814 S NUCLEIC(W)ACID(P)SEQUENCE?
L3 362 S L1 AND L2
L4 1206 S HUMAN IMMUNODEFICIENCY
L5 2922 S L1 OR L4
L6 0 S L2(P)LL5
L7 102 S L2(P)L5
L8 690 S LTR
L9 31 S L8 AND L7

=> d 1-2

1. 5,386,022, Jan. 31, 1995, Primes and probes for the amplification and detection of aids associated nucleic acids; John J. Sninsky, et al., 536/24.32; 435/5, 6, 91.2; 536/24.3 [IMAGE AVAILABLE]

2. 5,380,830, Jan. 10, 1995, Molecular clones of bovine immunodeficiency-like virus; Matthew A. Gonda, 536/23.1; 435/235.1, 236, 320.1; 536/23.72; 935/6, 9, 19, 32 [IMAGE AVAILABLE]

=> d 1 ab fd parn xa xp

US PAT NO: 5,386,022 [IMAGE AVAILABLE] L9: 1 of 31

ABSTRACT:
The presence or absence of a nucleic acid sequence associated with AIDS in a sample containing one or more nucleic acids and suspected of containing such sequence can be detected by amplifying the sequence using primers to form extension products as templates and detecting the amplified product if it is present. This may be accomplished by adding a labeled hybridization probe to the amplified product either free in solution or after immobilization on a solid support. Exemplary primers and probes for amplifying and detecting AIDS virus are provided.
DATE FILED: Jul. 16, 1993

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of application Ser. No. 07/918,907, filed Jul. 22, 1992, now abandoned, which is a continuation, of application Ser. No. 07/639,103, filed Jan. 9, 1991, now abandoned, which is a continuation of U.S. Ser. No. 394,276filed Aug. 15, 1989, which issued as U.S. Pat. No. 5,0008,182, which is a continuation of U.S. Ser. No. 935,581, filed Nov. 26, 1986, now abandoned, which is a continuation-in-part application of U.S. Ser. No. 818,127, filed Jan. 10, 1986, now abandoned. U.S. Ser. No. 394,276, is also a continuation-in-part application of U.S. Ser. No. 828,144, filed Feb. 7, 1986, which issued as U.S. Pat. No. 4,683,195 on Jul. 28, 1987, which is a continuation-in-part of U.S. Ser. No. 824,044, filed Jan. 30, 1986, now abandoned, which is a divisional of U.S. Ser. No. 791,308, filed Oct. 25, 1985, which issued as U.S. Pat. No. 4,683,202 on Jul. 28, 1987, and which is a continuation-in-part of U.S. Ser. No. 716,975, filed Mar. 28, 1985, now abandoned.
PRIM-EXMR: Stephanie W. Zitomer

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CLAIMS:

CLMS(1)

What is claimed is:

1. A pair of oligonucleotide primers for a polymerase chain reaction, which primers are sufficiently complementary to conserved regions among the nucleic acid sequences of AIDS viruses to hybridize therewith and not sufficiently complementary to HTLVI nucleic acids to hybridize therewith, wherein said conserved regions are at least 20 nucleotides long, wherein said primer pair consists of a member that comprises a nucleic acid sequence at least 14 nucleotides in length, which nucleic acid sequence is contained within a sequence selected from the group of nucleic acid sequences consisting of
5'-ATGAGAGAACCAAGG-3',
5'-CCAGTAGGAGAAAT-3',
5'-ATCCCAGTAGGAGAA-3',
and 5'-ATAATCCACCTATCCCAG-3',
and a member that comprises a nucleic acid sequence at least 14 nucleotides in length, which nucleic acid sequence is contained within a sequence selected from the group of nucleic acid sequences consisting of
5'-CCTTGTCTTATGTCCAG-3', and 5'-TTATGTCCAGAATGC-3'.

CLMS(2)

2. An oligonucleotide primer comprising a nucleic acid sequence which sequence is sufficiently complementary to a substantially conserved region among the nucleic acid sequences of AIDS viruses, and specific to the nucleic acids of AIDS viruses, to hybridize therewith and act as a point of initiation of synthesis in an amplification reaction, wherein said primer is selected from the group consisting of:
5'ATGAGAGAACCAAGG-3',
5'-CCTTGTCTTATGTCCAG-3',
5'-CCAGTAGGAGAAAT-3',
5'-ATCCCAGTAGGAGAA-3',
5'-TTATGTCCAGAATGC-3', and 5'-ATAATCCACCTATCCCAG-3'.

CLMS(3)

3. A DNA probe for detecting or monitoring amplified AIDS virus nucleic acids in a sample capable of hybridizing to an AIDS virus nucleic acid sequence, wherein said probe consists of a nucleic acid sequence between 28 and 180 nucleotides in length, which probe nucleic acid sequence contains a subsequence at least 28 nucleotides in length of a sequence selected from the group of nucleic acid sequences consisting of:
5-ATCCTGGGATTAAATAAAATAGTAAGAATGTATAGCCCTAC-3',
5-GATCCGAGAGAACCAAGGGGAAGTGACATAGCAGGAACTACTAGTACCCTTCAGGAACAAATAGGATGGA
TGACAAATAATCCACCTATCCCAGTAGGAGAAATCTATAAAAGATGGATAATCCTGGGATTAAATAAAATA
GTAAGAATGTATAGCCCTACCAGCATTCTGGACATAAGACAAGGG-3', and the sequences fully complementary thereto, and wherein said probe, when hybridized to its complementary sequence, encompasses a restriction enzyme cleavage site.

CLMS(4)

4. A DNA probe according to Claim 3 comprising a nucleic acid sequence,

or a sequence fully complementary to a sequence selected from the group consisting of:

5'-AATCCTGGCCTGTTTAGAAACATCAGAAG-3',

5'-TAGTAGCCAGCTGTGATAAATGTCAGCTAAAAGGAGAAGCC-3',

5-ATCCTGGGATTAAATAAAATAGTAAGAATGTATAGCCCTAC-3', and

5'-GATCCGAGAGAACCAAGGGGAAGTGACATAGCAGGAACTACTAGTACCCTTCAGGAACAAATAGGATGG
ATGACAAATAATCCACCTATCCCAGTAGGAGAAATCTATAAAAGATGGATAATCCTGGGATTAAATAAAAT
AGTAAGAATGTATAGCCCTACCAGCATTCTGGACATAAGACAAGGG-3'.

CLMS(5)

5. A DNA probe according to claim 3 consisting of a nucleotide sequence between 30 and 45 nucleotides long that is fully complementary to

5'-GATCCGAGAGAACCAAGGGGAAGTGACATAGCAGGAACTACTAGTACCCTTCAGGAACAAATAGGATGG
ATGACAAATAATCCACCTATCCCAGTAGGAGAAATCTATAAAAGATGGATAATCCTGGGATTAAATAAAAT
AGTAAGAATGTATAGCCCTACCAGCATTCTGGACATAAGACAAGGG-3' or the sequence that is fully complementary thereto.

CLMS(6)

6. A DNA probe according to claim 5, wherein said restriction enzyme cleavage site is a BstNI site.

CLMS(7)

7. A pair of oligonucleotide primers for a polymerase chain reaction consisting of a first and a second primer which are sufficiently complementary to conserved regions among the nucleic acid sequences of AIDS viruses to hybridize therewith and not sufficiently complementary to HTLVI nucleic acids to hybridize therewith, wherein each member of said pair of primers consists of a nucleic acid sequence at least 14 nucleotides in length, wherein said first primer sequence is contained in the target sequence

5'-GATCCGAGAGAACCAAGGGGAAGTGACATAGCAGGAACTACTAGTACCCTTCAGGAACAAATAGGATGG
ATGACAAATAATCCACCTATCCCAGTAGGAGAAATCTATAAAAGATGGATAATCCTGGGATTAAATAAAAT
AGTAAGAATGTATAGCCCTACCAGCATTCTGGACATAAGACAAGGG-3',

and wherein said second primer sequence is contained in the sequence that is fully complementary to said target sequence.

CLMS(8)

8. A DNA probe for detecting amplified AIDS virus nucleic acids in a sample, wherein said probe is capable of hybridizing to an AIDS virus nucleic acid sequence, and wherein said probe is selected from the group consisting of:

5-ATCCTGGGATTAAATAAAATAGTAAGAATGTATAGCCCTAC-3', and

5'-GATCCGAGAGAACCAAGGGGAAGTGACATAGCAGGAACTACTAGTACCCTTCAGGAACAAATAGGATGG
ATGACAAATAATCCACCTATCCCAGTAGGAGAAATCTATAAAAGATGGATAATCCTGGGATTAAATAAAAT
AGTAAGAATGTATAGCCCTACCAGCATTCTGACATAAGACAAGGG-3'.

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